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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/783,505

02/20/2004

David P. Bloomfield

X-0132

7580

38393 7590 03/07/2007

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EXAMINER

RIDLEY, BASIA ANNA

ART UNIT

PAPER NUMBER

1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/783,505	<b>Applicant(s)</b> BLOOMFIELD ET AL.	
	<b>Examiner</b> Basia Ridley <i>BR</i>	<b>Art Unit</b> 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mandelik et al. (3,771,261) in view of Buswell et al. (5,360,679).

With respect to claims 1 and 8, Mandelik et al. discloses a processor comprising:

a desulphurization unit (6 or 26) for fuel;

a pre-reformer/secondary reformer (44) for converting the reduced sulfur fuel (28, 46) from the desulphurization unit (6 or 26);

a steam reformer (30) (col. 2, lines 26-35) for reforming the mixture (49) from the pre-reformer/secondary reformer (44); and

wherein the steam reformer catalyst bed has an alkaline earth oxide/carbon dioxide fixing material (col. 5, lines 55-60).

While Mandelik et al. does teach that it is desirable to treat the product (40) from the reformer (30) to remove water (col. 8, lines 34-41), Mandelik et al. fails to specifically disclose a condenser in order to do this.

Buswell et al. discloses wherein a condenser (182) can be used to remove water from a reformat before the reformat can be fed to a fuel cell. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the condenser of Buswell et al. as the means by which to remove water desired by Mandelik et al. since it is merely the selection of

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means to remove water from a reformat known to the art and one would have a reasonable expectation of success in using such a water removal device.

With respect to claim 2, the material worked upon (diesel) does not limit an apparatus claim and therefore continues to read on the device of Mandelik et al. MPEP 2115.

With respect to claim 3, Mandelik et al. further disclose a furnace (22) capable of vaporizing (col. 7, lines 46-56).

With respect to claim 5, Mandelik et al. further disclose wherein the product mixture (40) from the reformer (30) can be further treated to remove water and oxides of carbon (col. 8, lines 34-41).

With respect to claims 6, 7 and 9, Mandelik et al. further disclose wherein the catalyst for both the reformer (30) and pre-reformer/secondary reformer (44) can comprise a precious metal catalyst (which would also be capable of acting as a water gas shift catalyst as well as convert hydrocarbon fuel to a mixture of C1 and C2 hydrocarbons) (col. 5, line 46- col. 6, line 8; col. 9, lines 15-16).

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mandelik et al. (3,771,261) in view of Buswell et al. (5,360,679) and further in view of Sechrist et al. (5,965,473).

With respect to claim 10, Mandelik et al. in view of Buswell et al. discloses all of the claim limitations as set forth above, but the references fail to disclose the processor wherein the reformer (30) comprises at least two catalyst beds and a means for diverting feed streams between the beds.

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Sechrist et al. teach where reforming catalysts have a tendency to deactivate and require regeneration (col. 1, lines 19-22) and disclose a solution which comprises providing multiple reforming catalyst beds and means by which to divert feed between the various beds (col. 17, line 47-66) to allow for regeneration of the beds. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Sechrist et al. in the device of Mandelik et al. in order to have continuous operation of the system by diverting feed from a bed which needs to be regenerated.

#### ***Response to Arguments***

4. Applicant's arguments filed 5 January 2007 have been fully considered but they are not persuasive.

5. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

6. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

#### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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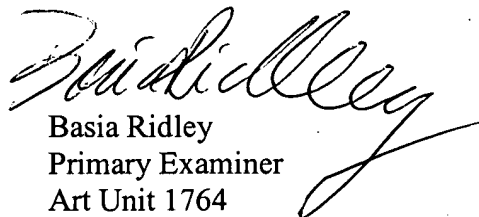
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (571) 272-1453.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Technical Center 1700 General Information Telephone No. is (571) 272-1700. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

  
Basia Ridley  
Primary Examiner  
Art Unit 1764

BR

March 2, 2007